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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/602,359	06/23/2003	Boris Tsybakov	030202	8891

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EXAMINER	
LEE, ANDREW CHUNG CHEUNG	

ART UNIT	PAPER NUMBER
2476	

NOTIFICATION DATE	DELIVERY MODE
11/12/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/602,359	TSYBAKOV ET AL.	
	Examiner	Art Unit	
	Andrew C. Lee	2476	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 July 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17 and 29-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *34-36* is/are allowed.

6)☒ Claim(s) *1-17 and 29-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *3/12/2009*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Claims 18 – 28 had been canceled.

Claims 1 – 17, 29 – 36 are pending.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 6, 17, 29, 2, 8, 30, 3, 9, 31, 4, 12, 32, 7, 10, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scherzer et al. (US 6901062 B2), and Kim et al. (US 6870824 B1) in view of Von der Embse (US 7352796 B1).

Regarding claims 1, 6, 17, 29, Scherzer et al. disclose a method of communications, a communications station, computer-readable medium *(Fig. 2, col. 6, lines 4 – 21, col. 7, lines 2 - 12, "ASIC" as computer-readable medium)*, comprising: a processor, means for dividing a plurality of subscriber stations into a plurality of groups *("to group the subscriber units into a number of groups (e.g. M groups)" interpreted as dividing a plurality of subscriber stations into a plurality of groups; col. 9, lines 33 – 42);* assigning a different plurality of orthogonal codes to each of the groups *(col. 10, lines 60 – 65),* the number of the orthogonal codes assigned to one of the groups being less than the number of subscriber stations in said one of the groups *(col.11, lines 10 – 19);*

encoding communications to one of the subscriber stations in said one of the groups at a data rate *(col. 17, lines 46 – 52)*; and

Scherzer et al. do not disclose plurality of orthogonal codes for supplemental traffic channels.

Kim et al. teach plurality of orthogonal codes for supplemental traffic channels *(col. 8, lines 37 – 54)*.

At time the invention was made it would have been obvious to a person of ordinary skill in the art to modify the teachings of Scherzer et al. to include the features of plurality of orthogonal codes for supplemental traffic channels as taught by Kim et al. One of ordinary skill in the art would be motivated to do so for designating forward spreading code for spreading forward common control message or short packet user data transmitted on a forward common *channel (as suggested by Kim et al., see col. 3, lines 17 – 19)*.

Kim et al. also disclose spreading codes and data rate *(col. 8, lines 11 – 31)*.

Scherzer et al. and Kim et al. do not disclose determining whether to spread at least a portion of communications to said to one of the subscriber stations with one of the orthogonal codes assigned to said one of the groups as a function of the data rate.

Von der Embse in the same field of endeavor teaches determining whether to spread at least a portion of communications to said to one of the subscriber stations with one of the orthogonal codes assigned to said one of the groups as a function of the data rate *("….users are group into the data rate categories corresponding to their respective code chip lengths 2, 4, ……..; col. 2, lines 49 – 67, col. 3, lines 35 – 67)*.

At time the invention was made it would have been obvious to a person of ordinary skill in the art to modify the teachings of Scherzer et al. and Kim et al. to include the features of determining whether to spread at least a portion of communications to said to one of the subscriber stations with one of the orthogonal codes assigned to said one of the groups as a function of the data rate as taught by Von der Embse. One of ordinary skill in the art would be motivated to do so for providing multiple data rate algorithms for hybrid and generalized hybrid complex Walsh orthogonal CDMA codes for use as the channelization codes for multiple data rate users *(as suggested by Von der Embse, see col. 1, lines 13 – 16).*

Regarding claims 2, 8, 30, Scherzer et al. disclose the method, computer-readable medium claimed further comprising allocating to said one of the subscriber stations one or more of the orthogonal codes assigned to said one of the groups, said one of the orthogonal codes being selected from the one or more of the orthogonal codes allocated to said one of the subscriber stations *(col. 10, lines 60 – 65, col. 11, lines 40 – 47).*

Regarding claims 3, 9, 31, Scherzer et al. disclose the method, computer readable medium claimed further comprising allocating to each of the subscriber stations in said one of the groups one or more of the orthogonal codes assigned to said one of the groups *(col. 10, lines 60 – 65)*, and using each of the orthogonal codes in said one of the groups to spread at least a portion of communications to different subscriber stations in said one of the groups (*col. 11, lines 40 – 47).*

Scherzer et al. and Kim et al. do not disclose the orthogonal code being used to spread said at least a portion of the communications to each of the different subscriber stations being selected from the respective one or more of the codes allocated thereto.

Von der Embse in the same field of endeavor teach the orthogonal code being used to spread said at least a portion of the communications to each of the different subscriber stations being selected from the respective one or more of the codes allocated thereto *("....users are group into the data rate categories corresponding to their respective code chip lengths 2, 4, ……..; col. 2, lines 49 – 67, col. 3, lines 35 – 67).*

At time the invention was made it would have been obvious to a person of ordinary skill in the art to modify the teachings of Scherzer et al. and Kim et al. to include the features of the orthogonal code being used to spread said at least a portion of the communications to each of the different subscriber stations being selected from the respective one or more of the codes allocated thereto as taught by Von der Embse. One of ordinary skill in the art would be motivated to do so for providing multiple data rate algorithms for hybrid and generalized hybrid complex Walsh orthogonal CDMA codes for use as the channelization codes for multiple data rate users *(as suggested by Von der Embse, see col. 1, lines 13 – 16).*

Regarding claims 4, 12, 32, Scherzer et al. disclose the method, the communication station, and computer-readable medium claimed further comprising spreading a portion of the communications to said one of the subscriber stations with a orthogonal code assigned to the groups *(col. 10, lines 60 – 65).*

Scherzer et al. and Kim et al. do not disclose spreading a second portion of the communications to said one of the subscriber stations with a second orthogonal code different from each of the orthogonal codes assigned to the groups.

Von der Embse in the same filed of endeavor teach spreading a second portion of the communications to said one of the subscriber stations with a second orthogonal code different from each of the orthogonal codes assigned to the groups *("lower data rate ….., higher data rate….; col. 2, lines 25 – 35, col. 3, lines 18 – 32).*

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Scherzer et al. and Kim et al. to include the features of spreading a second portion of the communications to said one of the subscriber stations with a second orthogonal code different from each of the orthogonal codes assigned to the groups as taught by Von der Embse in order to provide multiple data rate algorithms for hybrid and generalized hybrid complex Walsh orthogonal CDMA codes for use as the channelization codes for multiple data rate users *(as suggested by Von der Embse, see col. 1, lines 13 – 16).*

Regarding claim 7, Scherzer et al. and Kim et al. do not disclose wherein the orthogonal codes assigned to said one of the groups each have the same length.

Von der Embse in the same field of endeavor teach wherein the orthogonal codes assigned to said one of the groups each have the same length *("…transmitted over each N chip reference code length.."; col. 2, lines 36 – 46).*

At time the invention was made it would have been obvious to a person of ordinary skill in the art to modify the teachings of Scherzer et al. and Kim et al. to include

the features of wherein the orthogonal codes assigned to said one of the groups each have the same length as taught by Von der Embse. One of ordinary skill in the art would be motivated to do so for providing multiple data rate algorithms for hybrid and generalized hybrid complex Walsh orthogonal CDMA codes for use as the channelization codes for multiple data rate users *(as suggested by Von der Embse, see col. 1, lines 13 – 16)*.

Regarding claim 10, Scherzer et al. and Kim et al. do not disclose wherein a different combination of the orthogonal codes are allocated to each of the subscriber stations in said one of the groups.

Von der Embse in the same field of endeavor teach wherein a different combination of the orthogonal codes are allocated to each of the subscriber stations in said one of the groups *("….users are group into the data rate categories corresponding to their respective code chip lengths 2, 4, …….; col. 2, lines 49 – 67, col. 3, lines 35 – 67)*.

At time the invention was made it would have been obvious to a person of ordinary skill in the art to modify the teachings of Scherzer et al. and Kim et al. to include the features of wherein a different combination of the orthogonal codes are allocated to each of the subscriber stations in said one of the groups as taught by Von der Embse. One of ordinary skill in the art would be motivated to do so for providing multiple data rate algorithms for hybrid and generalized hybrid complex Walsh orthogonal CDMA codes for use as the channelization codes for multiple data rate users *(as suggested by Von der Embse, see col. 1, lines 13 – 16)*.

Regarding claim 11, Scherzer et al. and Kim et al. do not disclose wherein a same combination of the orthogonal codes are allocated to a plurality of the subscriber stations in said one of the groups.

Von der Embse in the same field of endeavor teaches wherein a same combination of the orthogonal codes are allocated to a plurality of the subscriber stations in said one of the groups *(col. 2, lines 25 – 35)*.

At time the invention was made it would have been obvious to a person of ordinary skill in the art to modify the teachings of Scherzer et al. and Kim et al. to include the features of wherein a same combination of the orthogonal codes are allocated to a plurality of the subscriber stations in said one of the groups as taught by Von der Embse. One of ordinary skill in the art would be motivated to do so for providing multiple data rate algorithms for hybrid and generalized hybrid complex Walsh orthogonal CDMA codes for use as the channelization codes for multiple data rate users *(as suggested by Von der Embse, see col. 1, lines 13 – 16)*.

4. Claims 5, 13, 33, 14, 15, 16**, are** rejected under 35 U.S.C. 103(a) as being unpatentable over Scherzer et al. (US 6901062 B2), Kim et al. (US 6870824 B1) and Von der Embse (US 7352796 B1) as applied to claims 1, 6, 17, 29, 2, 8, 30, 3, 9, 31, 4, 12, 32, 7, 10, 11 above, and further in view of Czaja et al. (US 6424631 B1).

Regarding claims 5, 13, 33, Scherzer et al. disclose the method, the communication station, and computer-readable medium claimed further comprising

spreading a portion of the communications to said one of the subscriber stations with a orthogonal code assigned to the groups *(col. 10, lines 60 – 65).*

Scherzer et al, Kim et al. and Von der Embse do not disclose wherein the data rate of the communications comprises a full rate and less than a full rate, and wherein said at least a portion of the communications to said one of the subscriber stations is spread with said one of the orthogonal codes when the data rate of the communications is the full rate, and wherein said at least a portion of the communications to said one of the subscriber stations is not spread with said one of the orthogonal codes when the data rate of the communications is less than the full rate.

Czaja et al. in the same field of endeavor teach wherein the data rate of the communications comprises a full rate and less than a full rate *("full rate 9600, half rate 4800, quarter rate 2400" interpreted as a full rate and less than a full rate; col. 6, lines 3 – 9),* and wherein said at least a portion of the communications to said one of the subscriber stations is spread with said one of the orthogonal codes when the data rate of the communications is the full rate *(Fig. 6A, col. 11, lines 1 – 14),* and wherein said at least a portion of the communications to said one of the subscriber stations is not spread with said one of the orthogonal codes when the data rate of the communications is less than the full rate *(Fig. 5, col. 10, lines 51 – 67).*

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Scherzer et al, Kim et al. and Von der Embse to include the features of wherein the data rate of the communications comprises a full rate and less than a full rate, and wherein said at least a portion of the

communications to said one of the subscriber stations is spread with said one of the orthogonal codes when the data rate of the communications is the full rate, and wherein said at least a portion of the communications to said one of the subscriber stations is not spread with said one of the orthogonal codes when the data rate of the communications is less than the full rate as taught by Czaja et al. in order to provide an apparatus and method for determining the rate of a variable rate encoded data frame *(as suggested by Czaja et al., see col. 3, lines 8 – 10).*

Regarding claim 14, Scherzer et al. disclose the method, the communication station claimed further comprising spreading a portion of the communications to said one of the subscriber stations with a orthogonal code assigned to the groups *(col. 10, lines 60 – 65).*

Scherzer et al. do not disclose the communications station claimed wherein the less than full rate comprises a data rate equal to 1/2 the full rate.

Kim et al. teach the communications station claimed wherein the less than full rate comprises a data rate equal to 1/2 the full rate *(col. 8, lines 16 – 23).*

At time the invention was made it would have been obvious to a person of ordinary skill in the art to modify the teachings of Scherzer et al. to include the features of the communications station claimed wherein the less than full rate comprises a data rate equal to 1/2 the full rate as taught by Kim et al. One of ordinary skill in the art would be motivated to do so for designating forward spreading code for spreading forward common control message or short packet user data transmitted on a forward common channel *(as suggested by Kim et al., see col. 3, lines 17 – 19).*

Czaja et al. also teach the communications station claimed wherein the less than full rate comprises a data rate equal to 1/2 the full rate *("half rate 4800" correlates to the less than full rate comprises a data rate equal to 1/2 the full rate, col. 6, lines 3 – 9).*

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Scherzer et al. to include the features of the communications station claimed wherein the less than full rate comprises a data rate equal to 1/2 the full rate as taught by Czaja et al. in order to provide an apparatus and method for determining the rate of a variable rate encoded data frame *(as suggested by Czaja et al., see col. 3, lines 8 – 10).*

Regarding claim 15, Scherzer et al. disclose the method, the communication station claimed further comprising spreading a portion of the communications to said one of the subscriber stations with a orthogonal code assigned to the groups *(col.10, lines 60 – 65).*

Scherzer et al. do not disclose the communications station claimed wherein the less than full rate comprises a data rate equal to 1/2 the full rate and a data rate equal to 1/8 the full.

Kim et al. teach wherein the less than full rate comprises a data rate equal to 1/2 the full rate and a data rate equal to 1/8 the full *(col. 8, lines 11 – 31).*

At time the invention was made it would have been obvious to a person of ordinary skill in the art to modify the teachings of Scherzer et al. to include the features of wherein the less than full rate comprises a data rate equal to 1/2 the full rate and a data rate equal to 1/8 the full as taught by Kim et al. One of ordinary skill in the art would be

motivated to do so for designating forward spreading code for spreading forward common control message or short packet user data transmitted on a forward common channel *(as suggested by Kim et al., see col. 3, lines 17 – 19).*

Czaja et al. also teach the communications station claimed wherein the less than full rate comprises a data rate equal to 1/2 the full rate and a data rate equal to 1/8 the full rate *("half rate 4800bps and eighth rates 1200 bps" correlates to the less than full rate comprises a data rate equal to 1/2 the full rate and a data rate equal to 1/8 the full rate, col. 6, lines 3 – 9).*

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Scherzer et al. and Kim et al. to include the features of the communications station claimed wherein the less than full rate comprises a data rate equal to 1/2 the full rate as taught by Czaja et al. in order to provide an apparatus and method for determining the rate of a variable rate encoded data frame *(as suggested by Czaja et al., see col. 3, lines 8 – 10).*

Regarding claim 16, Scherzer et al. disclose the method, the communication station claimed further comprising spreading a portion of the communications to said one of the subscriber stations with a orthogonal code assigned to the groups *(col. 10, lines 60 – 65).*

Scherzer et al. and Kim et al. do not disclose explicitly the communications station claimed wherein the encoder comprises a vocoder.

Czaja et al. teach the communications station claimed wherein the encoder comprises a vocoder *("vocoder"; col. 5, lines 27 – 42).*

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Scherzer et al. and Kim et al. to include the features of the communications station claimed wherein the encoder comprises a vocoder as taught by Czaja et al. in order to provide an apparatus and method for determining the rate of a variable rate encoded data frame *(as suggested by Czaja et al., see col. 3, lines 8 – 10).*

Allowable Subject Matter

5. Claims 34, 35, 36 allowed.

The following is an examiner's statement of reasons for allowance:

The prior art made of record, in single or in combination, fails to disclose explicitly the limitations of "receiving a dedicated orthogonal code for a dedicated traffic channel where the length of the dedicated orthogonal code supports a first data rate less than a full data rate of a subscriber station; and receiving an assignment of a plurality of orthogonal codes supports a second data rate adequate to handle an overflow up to the full data rate of the subscriber station" as disclosed in claim 34.

6. Additionally, all of the further limitations in claims 35, 36 are also allowable since the claims are dependent upon independent claim.

7. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

8. Applicant's arguments filed on 7/16/2009 with respect to claims 1 – 17, 29 – 36 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a) Willenegger et al. (US 20030224798 A1).
b) Weaver Jr. (6044103).

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew C. Lee whose telephone number is (571)272-3131. The examiner can normally be reached on Monday through Friday from 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on (571) 272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrew C Lee/
Examiner, Art Unit 2476
<11/05/2009:1Qy10>

/Ayaz R. Sheikh/
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